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SUCCESSIVE TRANSRADIAL ACCESS FOR CORONARY PROCEDURES: EXPERIENCE OF QUEBEC HEART-LUNG INSTITUTE, A HIGH VOLUME RADIAL CENTRE

Poster Contributions
Poster Sessions, Expo North
Saturday, March 09, 2013, 10:00 a.m.-10:45 a.m.

Session Title: Radial Access
Abstract Category: 53. TCT@ACC-i2: Vascular Access and Closure Devices and Complications
Presentation Number: 2102-259

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Background: Transradial approach (TRA) for cardiac catheterizations and interventions improves clinical outcomes compared to transfemoral access and its use is increasing worldwide. However, there is limited data on successive use of same artery for repeat procedures.

Methods: Between May 2010-May 2011, all consecutive patients undergoing a repeat TRA procedure (≥2) were identified. Success rates and reasons for failure to use ipsilateral radial artery for repeat access were identified.

Results: A total of 519 patients underwent 1420 procedures. In 480 patients (92%) right radial artery was used as initial access, and left radial artery in 39 patients. All patients underwent ≥ 2 procedures, 218 patients ≥ 3, 87 patients ≥ 4, 39 patients ≥ 5, 19 patients ≥ 6, 11 patients ≥ 7, and 5 patients ≥ 8 procedures. Two patients had respectively 9 and 10 procedures. The success rate for second attempt was 93%, 81% for third, declining to 60% for ≥ 8. Linear regression analysis estimated a 5% failure rate for each repeat attempt ($R2 = 0.87$, $P = 0.007$). The main reason for failure was related to clinical radial artery occlusion (RAO) including absent or faint pulse, poor oximetry, and failed puncture. All patients with clinical RAO were asymptomatic. By multivariate analysis, female gender (OR 3.08, 95% CI: 1.78-5.39, $P < 0.0001$), prior coronary artery bypass graft (OR 5.26, 95% CI: 2.67-10.42, $P < 0.0001$) and repeat radial access (OR 2.14, 95% CI: 1.70-2.76, $P < 0.0001$) were independent predictors of radial access failure.

Conclusion: Successive TRA is both feasible and safe in a majority of cases for up to 10 procedures. However, failure rate for TRA increases with successive procedures, primarily due to clinical RAO. Strategies to minimize the risks of chronic clinical RAO and allow repeat use of ipsilateral radial artery need to be further defined.